

AMENDMENTS TO THE CLAIMS

1-69. (Canceled)

70. (Currently Amended) A data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses, wherein the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, said data recording medium comprising:

~~an area for storing~~ prerecorded control data, said prerecorded control data comprising:

timing information including at least ~~a piece~~ one of first information for determining a rising edge position of a first pulse of said drive pulses, and second information for determining a trailing edge position of a last pulse of said drive pulses; and

operational power information including at least ~~a piece~~ one of information for setting a peak power, information for setting a bias power, and information for constant data, said operational power information indicative of light beam power used for recording actual data to a data area.

71. (Canceled)

72. (Currently Amended) A data recording medium as claimed in claim 70, wherein said control data further comprises information for asymmetry as ~~a piece~~ one of said operational power information.

73. (Currently Amended) A recording and reproducing apparatus for use in recording data to and reproducing data from a data recording medium,

the data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses where the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, the data recording medium comprising:

~~an area for storing~~ prerecorded control data, the prerecorded control data comprising:

timing information including at least one ~~a piece~~ of first information for determining a rising edge position of a first pulse of the drive pulses, and second information for determining a trailing edge position of a last pulse of the drive pulses; and

operational power information including at least one ~~a piece~~ of information for setting a peak power, information for setting a bias power, and information for constant data, said operational power information indicative of light beam power used for recording actual data to a data area,

said recording and reproducing apparatus comprising:

a reading system that reads the timing information and the operational power information;
and

a determining system that determines drive pulse based on the timing information and the operational power information.

74. (Previously Presented) A recording and reproducing apparatus as claimed in claim 73, wherein said determining system for determining drive pulse emission power has a random signal generator for generating a random signal.

75. (Previously Presented) A recording and reproducing apparatus as claimed in claim 73, wherein said determining system for determining drive pulse emission power has a simple pattern signal generator for generating a simple pattern signal that is a signal having a single period.

76. (Currently Amended) A recording and reproducing method for use in recording data to and reproducing data from a data recording medium,

the data recording medium having a plurality of concentric or spiral tracks for recording information represented as marks and spaces between the marks, the marks being formed by emitting to a track recording surface an optical beam modulated by a plurality of drive pulses where the drive pulse count is adjusted according to a length of a mark part in the original signal to be recorded to the track, the data recording medium comprising:

~~an area for storing~~ prerecorded control data, said prerecorded control data comprising:

timing information including at least one ~~a piece~~ of first information for determining a rising edge position of a first pulse of said drive pulses, and second information for determining a trailing edge position of a last pulse of said drive pulses; and

operational power information including at least one ~~a piece~~ of information for setting a peak power, information for setting a bias power, and information for constant data, said operational power information indicative of light beam power used for recording actual data to a data area,

said recording and reproducing method comprising:

reading the timing information and the operational power information; and

determining drive pulse based on the timing information and the operational power information.

77. (Previously Presented) A recording and reproducing method as claimed in claim 76, wherein said determining includes generating a random signal.

78. (Previously Presented) A recording and reproducing method as claimed in claim 76, wherein said determining includes generating a simple pattern signal that is a signal having a single period.